

it were derived by interpolation from the wave-lengths of the magnesium and iron lines. The arc of a De Meritens machine taken in a crucible of magnesia gave us, when a current of steam was passed into the crucible, both the water spectrum and the metallic lines on the same plate. The solar lines are marked in the figure in positions held by the corresponding iron lines. These photographs were taken with prisms of Iceland spar. None of our photographs show any more refrangible rays produced by water within the limit of transparency of Iceland spar, *i.e.*, below a wave-length of about 2200.

- III. "An Attempt at a Complete Osteology of *Hypsilophodon Foxii*, a British Wealden Dinosaur." By J. W. HULKE, F.R.S. Received January 16, 1882.

(Abstract.)

The author, after giving a list of papers on remains of this Dinosaur, by Professor Owen, Professor Huxley, and himself, and noticing the great want of a complete osteology which might serve as a type, describes in detail the skull, including the dentition, the vertebral column, shoulder-girdle, and hip-girdle with the limbs, and compares their structure with that of other fossil and extant Sauropsida. He maintains the generic distinctness of *Hypsilophodon* from *Iguanodon* as typified by *I. Mantelli*, considering that the very different structure of their hind feet is decisive of this. The paper embodies the results of dissections of parts of several skeletons, and it is illustrated by figures of all the bones described.

- IV. "The Influence of Stress and Strain on the Action of Physical Forces." By HERBERT TOMLINSON, B.A. Communicated by Professor W. GRYLLS ADAMS, M.A., F.R.S. Received January 18, 1882.

(Abstract.)

PART II.—*Electrical Conductivity.*

The temporary alteration of electrical conductivity which can be produced by longitudinal traction was measured for all the metal wires used in Part I, both in the hard-drawn and annealed condition, and, in addition, for carbon and nickel, by the following method:—The wires were suspended in pairs of equal lengths in an air-chamber 4 feet in length and 4 inches inner diameter. This vessel, which consisted of two concentric cylinders containing a layer of water